REMARKS

Upon entry of the instant Amendment, claims 1-38 will be pending in the application. Claims 1, 17, 22, 24 and 25 are independent. By this amendment, claims 1, 22, 24 and 25 will have been amended and claims 30-38 will have been added. Support for the new claims 30-38 can be found on at least paragraphs [0035] and [0102] –[0105] of the instant published application 2003/0106844. No new matter is added. Reconsideration of the rejections in view of the above amendments and the following remarks is respectfully requested.

Allowable Claims

Applicants acknowledge and appreciate that claims 17-21 were indicated to be allowed. Applicants submit, however, that all pending claims are in condition for allowance and respectfully request that all pending claims be indicated as allowed.

35 U.S.C. § 101 Rejection

Claims 25 and 29 were rejected under 35 U.S.C. § 101 for being allegedly being directed to non-statutory subject matter.

Applicants respectfully disagree. While Applicants agree that claim 25 is directed to a machine readable medium, Applicants disagree that this phrase "has no set definition". In a recent search of the USPTO database, Applicants have found over 2400 US patents which use this phrase in the claims. Furthermore, paragraph [0101] of the instant published application 2003/0106844 provides non-limiting examples of such

computer hardware, e.g., diskette, hard disk, CD-ROM, DVD-ROM, tape, etc.

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 101 is improper and should be withdrawn.

35 U.S.C. § 103 Rejections

Over IIZUKA with HALMANN

Claims 1-8, 11-13, 16 and 22-29 were rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over U.S. Patent No. 5,485,561 to IIZUKA et al. in view of U.S. Patent No. 6,526,163 to HALMANN et al.

Applicants respectfully submit that a *prima facie* case of unpatentability cannot be established because no proper combination of IIZUKA and HALMANN discloses or suggests each and every element of the claims.

More particularly, independent claims 1, 22, 24 and 25 recite, *inter alia,*

> wherein the common framework provides that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another.

As acknowledged by the Examiner on pages 3 and 4 of the instant Office Action, IIZUKA does not disclose or suggest at least this feature.

With regard to HALMANN, Applicants acknowledge, for example, that HALMANN teaches a system which utilizes a beamformer module 202 that "forms a set of polar data values corresponding to an ultrasound sector scan or image frame of an area of interest" (see col. 8, lines 1-3). Applicants also acknowledge that HALMANN discloses that the system utilizes "multiple CPUs" which "operate in parallel" (see col. 8, lines 58-

61). However, The Examiner is not correct that HALMANN discloses a system that uses a common framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another. HALMANN merely discusses using "[t]he multiple CPUs to carry out the scan conversion operation" and "operate in parallel to convert the polar coordinate data set to a Cartesian coordinate data set" (see col. 8, lines 58-65).

Using multiple CPUs to carry out a scan conversion operation and to convert the polar coordinate data set to a Cartesian coordinate data set is simply not the same as using a common framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another. Nor has the Examiner demonstrated otherwise.

Furthermore, while the Examiner has alleged that step 302 in HALMANN specifically discloses a common framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another, the Examiner has failed to appreciate that step in HALMANN merely relates to collecting a set of polar data values which can then be processed (see col. 9, lines 17-25).

Thus, Applicants respectfully submit that, contrary to the instant invention, each of IIZUKA and HALMANN does not disclose at least the above-noted features of claims 1, 22, 24 and 25.

By way of background, the present invention implements the system and method on a common framework in order to ensure that different recognition AOI systems, each

using its own set of conventions for describing area information, is compatible with one another without the need for having a single convention. Indeed, page 5, lines 10-22 of the specification specifically indicates how this is accomplished using, among other things, a standard set of AOIs, hiding the actual AOI data behind handles, providing ways for the user to inform the AOI manager of assumptions, and completely decoupling the way in which the AOI is specified from the way in which it is accessed.

None of these aspects appear to be contemplated by the disclosure of IIZUKA and HALMANN. IIZUKA is merely concerned with replacing an area or region of interest with another area or region of interest having a different shape (see col. 1, lines 7-12) and HALMANN is merely concerned with using multiple processors in parallel in order to share processing responsibility and to carry out a scan conversion operation.

Accordingly, Applicants respectfully submit that independent claims 1, 22, 24 and 25 as well dependent claims 2-8, 11-13, 16, 23 and 26-29, which depend from claims 1, 22, 23 and 25 are allowable.

Applicants note, in particular, that neither IIZUKA nor HALMANN disclose or suggest:

(i) that the first geometric shape is a same shape as the second geometric shape (claim 3).

(ii) that the first geometric shape is more constrained than the second geometric shape (claim 5).

(iii that the bounding box is more constrained than the parallelogram, the rectangle and the polygon (claim 7).

(iv) the step of translating the second geometric shape by a predetermined amount compared to the first geometric shape (claim 11).

(v) the step of scaling the second geometric shape by a predetermined amount compared to the first geometric shape (claim 12).

(vi) that the step of scaling is performed in at least one of a vertical (Y) and horizontal direction (X) (claim 13).

(vii) that the step of defining the first geometric shape includes the steps of determining whether the first geometric shape includes one of:
(i) at least three points;
(ii) a distinct starting point, fast end point and a slow end point;
(iii) a non-zero distance between a starting point and a fast end point; and
(iv) a non zero area (claim 16).

(viii) that the second AOI space has the same shape or is more constrained than the initial AOI space (claim 23).

(ix) that the new AOI defines a bounded area shape and wherein, after the converting, the first geometric shape is bounded or constrained by the bounded area shape (claim 26).

(x) that the second AOI space defines a bounded area shape and wherein, after the converting, the geometric shape is bounded or constrained by the bounded area shape (claim 27).

(xi) that the system further comprises means for generating a bounded area shape, wherein the first geometric shape is bounded or constrained by the bounded area shape (claim 28).

(xii) that the method further comprises generating a bounded area shape and wherein, after the converting, the first geometric shape is bounded or constrained by the bounded area shape (claim 29).

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Over IIZUKA with HALMANN and WANG

Claims 9, 10, 14 and 15 were rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over IIZUKA in view of HALMANN and further in view of U.S.

Patent No. 4,701,752 to WANG.

The Examiner acknowledges that IIZUKA and HALMANN lack, among other things, rotating about an origin and mirroring points of the second geometric shape. However, the Examiner asserts that such features are taught or suggested by WANG and that it would have been obvious to combine the teachings of these documents to achieve the claimed invention. Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

Applicants submit that none of IIZUKA, HALMANN, or WANG disclose or suggest the combination of features recited in at least independent claim 1. Applicants also submit that no proper combination of these documents disclose or suggest the combination of features recited in at least claim 1.

As noted above, independent claim 1 recites, *inter alia,*

> wherein the common framework provides that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another.

As explained above, the Examiner has acknowledged that IIZUKA fails to disclose or suggest this feature.

Furthermore, while it is apparent that HALMANN teaches a system which utilizes a beamformer module 202 that "forms a set of polar data values corresponding to an ultrasound sector scan or image frame of an area of interest" (see col. 8, lines 1-3) and that the system utilizes "multiple CPUs" which "operate in parallel" (see col. 8, lines 58-61), the Examiner is not correct that HALMANN discloses a system that uses a common

framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another. To the contrary, HALMANN merely discusses using "[t]he multiple CPUs to carry out the scan conversion operation" and "operate in parallel to convert the polar coordinate data set to a Cartesian coordinate data set" (see col. 8, lines 58-65).

Again, using multiple CPUs to carry out a scan conversion operation and to convert the polar coordinate data set to a Cartesian coordinate data set is simply not the same as using a common framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another. Nor has the Examiner demonstrated otherwise. Furthermore, while the Examiner has alleged that step 302 in HALMANN specifically discloses a common framework which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another, the Examiner has failed to appreciate that step in HALMANN merely relates to collecting a set of polar data values which can then be processed (see col. 9, lines 17-25).

With regard to WANG, Applicants acknowledge that WANG relates to a method of generating a mirror image of a graphic object (see abstract). Applicants do not dispute, for example, that WANG discloses that a graphic object 18 can be generated within a display edit window (see col. 3, lines 35-37) and that the object 18 can be selected and mirrored by the user using a computer system (see col. 3, line 50 to col. 4, line 9). However, Applicants respectfully submit that, contrary to the Examiner's

assertions, WANG does not cure the deficiencies of IIZUKA and HALMANN, and does not disclose or suggest at least the above-noted features of claim 1.

For example, WANG, like IIZUKA and HALMANN, is entirely silent with regard to implementing the disclosed system on a common framework which provides that different recognition AOI systems, each using its own set of conventions for describing area information, is compatible with one another. The disclosure in WANG with regard to mirroring an object on a computer system is not suggestive of using a common framework, much less, one which ensures that different recognition AOI systems, each using its own set of conventions for describing area information, are compatible with one another. The system in WANG merely allows a user to create an object and then mirror it. Moreover, WANG merely discloses that the code implementing the system can be written in program design language PDL (see col. 5, lines 3-6).

Thus, in addition to failing to disclose the combination of features recited in the claim 1, Applicants submit no proper combination of these documents discloses or suggests the combination of features recited in claim 1 or in the above-noted claims which depend from claim 1.

Applicants note, in particular, that no proper combination of IIZUKA, HALMANN, and WANG discloses or suggests, in combination with the steps of claim 1:

(i) the step of rotating is performed about an origin (0,0) (claim 10).

(ii) the step of mirroring points of the second geometric shape by a predetermined amount compared to the first geometric shape about one of a horizontal and vertical axis (claim 14).

Accordingly, Applicants respectfully submit that the above-noted rejection under 35 U.S.C. § 103(a) should be withdrawn.

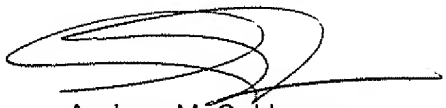
New Claims are also Allowable

Applicants submit that new claims 30-38 are allowable over the art of record. Specifically, claims 30-38 depend from claims 1, 17, 22, 24 and 25 which are believed to be allowable. Additionally, claims 30-38 recite a combination of features which are not disclosed or suggested by the applied art of record. Accordingly, Applicants request consideration of these claims and that these claims be indicated as allowed.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Respectfully submitted,
R. C. VAN HALL, *et al.*



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